

## Letter to the Editor

## The Gastro-Esophageal Malignancies in Northern Iran (GEMINI) is Expected to be the Pioneer in the Implementation and Application of the Methodology Used in Evaluating Research Impact

### Dear Editor,

The “gastro-esophageal malignancies in northern Iran” (GEMINI) research group’s article about the impact of this study on the health research and healthcare systems in Iran, which was published in January 2013 contains valuable information on the history and vast range of researches carried out through this important project. This article introduces achievements by GEMINI, which led to the publication of 60 articles (since 2002); numerous lectures; research method development (designing valid questionnaires); creating a research infrastructure (starting the Golestan Cohort, the formation of national and international research networks, setting up new laboratories, and data collection systems); launching service delivery units (Aras and Atrak clinics) where the majority of the project’s clinical actions were carried out; capacity building of human resources (participation in PhD, fellowship, and Master of Public Health programs and holding continuous medical education courses for service delivery personnel in the region under study); and launching the cancer registry.<sup>1</sup> According to the editorial of the July 2012 issue of this journal: “There is no valid way to measure what fraction of our research results is translated into improved healthcare services”.<sup>2</sup>

It should be pointed out that in the narrative study (which was conducted with the support of Iran’s Academy of Medical Sciences), 13 methods have been introduced for assessing the impact of health research.<sup>3</sup> The systematic review conducted in Knowledge Utilization Research Center (KURC) on the economic payback of research identified four main methods for this kind of assessment.<sup>4</sup> The payback framework has been identified as the most common method used in evaluating the impact of health research.<sup>5-8</sup> This method has been used in various countries such as the UK,<sup>9</sup> Netherlands,<sup>10</sup> Hong Kong,<sup>11</sup> and Spain.<sup>12</sup> Many of the other models were originated from this fundamental model that was developed in the 90s.<sup>3</sup> Based on the payback framework, the impact of research can be seen in areas of advancing new knowledge (e.g. number of publications and highly-cited publications), capacity building (e.g. personnel and infrastructure), informed decision-making (e.g. use of research in development of clinical guidelines), health (e.g. impact on mortality and morbidity), and economic and social impact (e.g. commercialization and well-being).<sup>13</sup> Comparing these areas with the areas considered in the January 2013 issue’s article, it becomes evident that the project’s achievements are mainly in areas of advancing knowledge and capacity building. In other words, the article explains the input and process of research and the only output is related to the number of articles and capacity building, whereas nothing is mentioned on the impact of the GEMINI project.

The objective of reducing morbidity and mortality in esophageal cancer through preventive strategies mentioned in the introduction of this article, in January 2013, is in fact what is expected of this project’s impact.<sup>1</sup> By identifying the risk factors that have been identified in GEMINI researches, for example the high exposure to polycyclic aromatic hydrocarbons, low socio-economic status, opium and tobacco consumption, poor oral hygiene, and non healthy dietary pattern, a change in living conditions and people’s behavior (as an effect), and content preparation for public awareness, or a ‘public health guidance’ for preventive service delivery personnel in the region would be expected. Alternatively, if a solution had been found to recommend the screening of the high-risk individuals, it could have found its way into ‘clinical practice guidelines’.

In fact, the research impact assessment has a difficult but recognized methodology, and it would be necessary if important projects such as GEMINI would reflect them. The main question is how much this important project has affected people’s health in the region? Or to what extent upper gastrointestinal clinical guidelines in Iran have benefited from GEMINI’s researches?

Nevertheless, studies in various countries showed a wide lag between a research and its impact on people’s health. For example, a study on the cardiovascular diseases guidelines showed that the most frequently used references were seven years old. This study also showed that 25% of guidelines used in the UK used related primary researches conducted in this country. In other words, it means the share of the UK researches in their routine practice is 25%. It has also shown that 10 to 25 years is needed for the economic and social impacts of researches.<sup>14</sup> However, certain recommendations advise evaluation after a three to five year period.<sup>15</sup>

In any case, your editorial in the July 2012 issue which read “evaluation methods, if not carefully designed and implemented, may lead to substantial bias in the results they released”<sup>2</sup> is absolutely correct. In fact, one of the benefits of thinking about the impacts of research, in addition to their importance in securing resources, is their assistance in research prioritization. Seemingly this very idea has been reflected in the article. Considering the high rate of non-communicable diseases and their avoidable burden, which could lead to research in this field, the future path of these researches is inclined toward ischemic heart disease and stroke.<sup>1</sup>

However, the application of research and its impact on decision-making is not an easy process.<sup>16</sup> But certain studies in Iran have been conducted for both the application of research in clinical guidelines<sup>17</sup> and the further action of researchers.<sup>18</sup> It is expected of GEMINI, whose leading role for other centers and research

teams has been referred to in the article,<sup>1</sup> to be the pioneer in these fields too. Anyhow, a research program as large as this needs a plan in advance, and a rigorous methodology, to evaluate its impact. This is an inevitable future set forth by the advancements made in Iran's researches.<sup>19</sup>

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## Authors' Reply

We should express our special thanks to Dr. Majdzadeh for his comments on our paper entitled "The Gastro-Esophageal Malignancies in Northern Iran Research Project: Impact on the Health Research and Healthcare Systems in Iran".<sup>1</sup>

We agree with Dr. Majdzadeh that the actual impact of GEMINI on health research and strategy needs time to be achieved. In this paper, we have mainly emphasized on the short term impacts of this study as long term impacts are in fact not possible to be evaluated and measured at the present time.

Moreover, because of the gap between healthcare and health research in Iran, results of this project have not been translated into practice yet and there are numerous other barriers that you alluded to some of them in your letter. However, one of the major impacts is the engagement of 270 auxiliary health workers (Behvarz) in one of the largest clinical trials in Iran and the region that is presently running, named PolyIran trial.<sup>4</sup> In this trial a fixed-dose combination polypill is prescribed to prevent cardiovascular diseases as the most common cause of death in Iran and other low- and middle- income countries. The impacts of this study will be global as well as national in near future.<sup>2-4</sup>

We also agree with using a standard method to evaluate research projects and make them comparable. However, planning a rigorous methodology to evaluate the impacts in advance for GEMINI or any other local study needs a rigorous infrastructure at the national level, which is beyond of the scope of this study and needs policies at national level. As mentioned in the editorial of the July 2012 issue of the Archives of Iranian Medicine,<sup>5,6</sup> the first attempt that aimed at evaluating the Health Research System at national level in the Deputy of Research in the Ministry of Health<sup>6</sup> can be invaluable for further establishment of rigorous methodologies at national levels as mentioned and emphasized in that editorial.<sup>5</sup>

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